

# Wallace & Tiernan® Liquid Feed Systems

## Chem-Ad® Series D Metering Pump

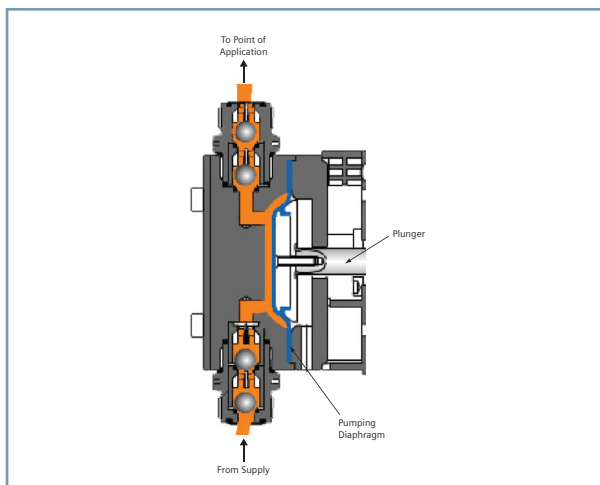
The Chem-Ad® Series D motor driven metering pump is designed for dependable, reliable metering of fluids at moderate feedrates. A standard polypropylene head and PVDF valve set provide greater resistance to most chemicals.

The Chem-Ad® Series of diaphragm metering pumps are designed to handle the most demanding applications in the treatment of potable water, swimming pools, wastewater and industrial processes. A well-balanced range of capacities combines with excellent reproducibility and optimal chemical resistance. Chem-Ad® metering pumps are of the positive displacement-type driven by proven overload-proof motors. Since they are available with a wide choice of configurations ranging from manual to flow proportional to setpoint, these pumps can cover any metering requirement.

The XL Series, shown below, features an integrated LED display panel, touch-pad controls and multiple control functions, including feedrate setpoint with closed-loop control, flow/no-flow monitoring, batch operation and self-calibration and feedrate display.

### Key Benefits

- Dependable multi-capacity metering from 168 LPH (44 USGPH) to 900 LPH (238 USGPH) and back pressures to 10 Bar at 50 Hz; 120 PSI at 60 Hz
- Reliable metering accuracy of all fluids
- Flexible automatic signal input - analog or pulse
- Simple user-friendly pump calibration
- Continuous accurate chemical dosing
- Suitable for unmanned installations with auto controls and optional flow monitoring
- Easy to read back-lit digital display of pump capacity, strokes operating mode and alarm
- Low maintenance and corrosion proof design standard
- Corrosion resistant IP65 enclosure
- CE marked electronics



## Product Sheet

Water Technologies



## Description

The Chem-Ad® Series D diaphragm metering pump features manual stroke length control, or optional external control, and is designed to handle aggressive chemical solutions. Its smooth pulsation characteristics ensure high metering accuracy and long life of diaphragms and liquid ends.

- Its rugged construction and the enclosure, IP55 (NEMA 4), make the Chem-Ad® Series D pump perfectly suited for industrial applications.
- The integral non-wearing motor brake ensures high metering accuracy at pulse operation.
- The standard liquid end made of polypropylene ensures a wide range of chemical resistance.

## Controls

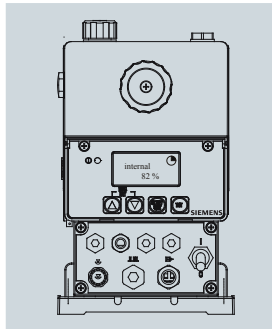
### Manual - E00

Manual control is on-line by means of a mechanical stroke length adjustment via a two-turn knob graduated 0 to 100%. An on/off switch is also provided. There are connections to accept level input and alarm output.

### Automatic - E60 (XL Model)

The automatic E60 (XL Model) includes:

- An integrated LED display panel for easy to read, clear indication of operating status and user-friendly programming.
- A four key membrane touch pad simplifies function selection.
- Local or remote control via analog (0/4-20mA or 20-4/0mA) or pulse input signals.
- Signal scaling allows for multiplication or division of the pulse input signal.
- Flow/no flow verification via an optional flow monitor.



### Automatic - E60<sup>Plus</sup> (XL Model)

With the addition of an intelligent control package (ICP) and Oval Gear Meter (OGM), the E60 becomes the full featured E60<sup>Plus</sup> and includes:

- Set point controls with automatic frequency compensation for constant chemical feed.
- Chemical consumption data logging.
- Real time feed rate display.
- Plug and play with calibration data storage on OGM
- Adjustable flow alarm points

## Spares and Accessories

### Liquid End PM Kit® Packages

For every model of the Chem-Ad® Series D metering pump, a corresponding maintenance kit is available. This economically priced package contains all spare and wear parts for a prompt and quick maintenance of the liquid end. The Chem-Ad® series of pumps is available with additional useful accessories, one is listed below.



### Diaphragm Leak Detector

This optional diaphragm leak detection system senses the early stages of diaphragm failure.



Oval Gear Meter



## Selection Guide

To allow easy selection, the Chem-Ad® series of pumps is engineered to the modular design principle. The selection criteria, shown to the right, provides a perfect guide to define the right pump for the respective duty.

Selection Code (Example) "****"																										
CM	1	D3	E60	P	F	C	99	43																		
								<b>Connections</b> <b>Cap. 44 &amp; 66 GPH 1" NPT:</b> 39 = Polypropylene; 40 = PVDF; 42 = Stainless Steel <b>Cap. 143, 200 &amp; 238 GPH 1-1/2" NPT:</b> 43 = Polypropylene; 44 = PVDF; 45 = PVC; 46 = Stainless Steel  <b>Valve Type</b> 99 = Standard; 04 = Spring loaded suction & discharge valves  <b>Valve Balls</b> C = Ceramic; S = Stainless Steel; T = Teflon®  <b>O-Ring</b> F = Viton®; E = EPDM; P = PTFE coated  <b>Pump Head</b> K = PVDF; S = Stainless Steel; P = Polypropylene  <b>Control Mode</b> E60 = Auto Control with Digital Display; E00 = Manual  <b>Capacity</b> <table border="0"> <tr> <td></td> <td><b>50HZ</b></td> <td><b>60HZ</b></td> </tr> <tr> <td>D1</td> <td>= 140 LPH</td> <td>44 USGPH</td> </tr> <tr> <td>D2</td> <td>= 210 LPH</td> <td>66 USGPH</td> </tr> <tr> <td>D3</td> <td>= 450 LPH</td> <td>143 USGPH</td> </tr> <tr> <td>D4</td> <td>= 630 LPH</td> <td>200 USGPH</td> </tr> <tr> <td>D5</td> <td>= 750 LPH</td> <td>238 USGPH</td> </tr> </table> <b>Voltage &amp; Cycles</b> 1 = 115 V. 60 Hz; 3 = 230 V. 50 Hz		<b>50HZ</b>	<b>60HZ</b>	D1	= 140 LPH	44 USGPH	D2	= 210 LPH	66 USGPH	D3	= 450 LPH	143 USGPH	D4	= 630 LPH	200 USGPH	D5	= 750 LPH	238 USGPH
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Options / Series D	E00	E60	E60 <sup>Plus</sup>
On-Off Button	X	X	X
Manual Stroke Length	X	X	X
Stroke Frequency Control		X	X
Level Input Switch (low level and empty)	X	X	X
Power Cord and Plug	X	X	X
External Analog Input (0-20 or 4-20 mA)		X	X
External Analog Input (0/4-20 mA or 20-4/0 mA)		X	X
Input Signal Scaling		X	X
External Pulse Input		X	X
Remote On / Off		X	X
Batch Mode & Pulse Storage		X	X
Alarm Output & Stroke Pulse Output		X	X
Membrane Touch Pad		X	X
Flow Monitoring (OGM Required)		X	X
Integral Back-Lit Digital Display		X	X
Password Protection		X	X
Capacity Display		X	X
Multiple Language Display (English, German, French)		X	X
Flow Totalizing			X
Set Point Control			X

Note -E60<sup>Plus</sup> models require ICP & OGM combination.

\* This is a typical configuration code, consult factory for product part number



## Technical Data

Maximum Capacity LPH / USGPH 60 Hz LPH @ 50 Hz	168 / 44	252 / 66	540 / 143	756 / 200	900 / 238
	140	210	450	630	750
Max. Back Pressure (Bar at 50 Hz/PSI at 60Hz)	10/120	8/100	6/75	4/50	3/35
Stroke Frequency Max. (SPM) @ 50/60 Hz	122 / 144				
Capacity / Stroke Max. (cm <sup>3</sup> )	19.4	29.2	62.5	87.5	
Accuracy	Better than $\pm 3\%$				
Max. Suction Lift at 100% *	2 Meters / (6 Ft)				
Suction / Discharge Connection	G 1 1/4" ( 1" NPT)		G 1 1/4" ( 1 1/2" NPT)		
Power Supply	230 V, 50 Hz / 115 V, 60 Hz				
Current (mA) 115/230 VAC	2.5 @ 50 Hz / 3.8 @ 60 Hz				
Max. Power Input (W)	875 @ 50 Hz / 575 @ 60 Hz				
Enclosure	IP55 (NEMA 4)				
Max. Ambient Temp.	40°C (104°F)				
Insulation Class	F				
Alarm Output Low Level and Tank Empty Contact	Dry contact 24 V, 3 Amps AC/DC or 240 V, 3 Amps AC/DC				
Stroke / Pulse Contact (Available with 24 VDC Only)	Energized 240 V DC Relay, 300 mA, External Power Supply Required				
mA Input	0/4-20 mA or 20-4/0 mA (E60 & E60 <sup>plus</sup> ) Max. Impedance 50 Ohms				
Pulse Input / Max. Pulse Frequency	Min. pulse length 15msec = 1 stroke; Max. pulse is 122 pulses per minute (@ 50 Hz) / 146 pulses per minute (@ 60 Hz) = continuous running				
Stroke Signal Output	1 Pulse Per Stroke, Dry Contact Rated 24 V DC, 300 mA				
Weight	25 Kgs. / 55 Lbs.				
Dimensions	L 412 mm x w 157 mm x H 455 mm ( 16 1/4" x 6 3/16" x 17 15/16")				

\* Note: Suction lifts with clean, wetted valves. Suction lance with tank level switches is recommended for all capacities. All data refers to water at 20°C (68°F) as per the instruction manual.

## Materials of Construction

Pump Head: PP (Standard), PVDF, Stainless Steel

Diaphragm: PTFE-EPDM Composite

O-Ring: FPM / Viton® B (Standard), EPDM, Isolast®

Valves: Ceramic (Standard), Stainless Steel, PTFE

Valve Springs: Hastelloy® C4

Housing/Finish: PPO/AL

### Western Region

(08) 9412 6100

hydramet@hydramet.com.au

### Central Region

(08) 8374 7800

hydrasa@hydramet.com.au

### Eastern Region

(03) 9325 3900

hydravic@hydramet.com.au

[www.hydramet.com.au](http://www.hydramet.com.au)



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